



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b>  <b>A61K 7/48</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 97/13497</b>  <b>(43) International Publication Date:</b> 17 April 1997 (17.04.97)
<b>(21) International Application Number:</b> PCT/EP96/04393  <b>(22) International Filing Date:</b> 9 October 1996 (09.10.96)  <b>(30) Priority Data:</b> 9520690.0 10 October 1995 (10.10.95) GB  <b>(71) Applicant (for all designated States except US):</b> THE BOOTS COMPANY PLC [GB:GB]; 1 Thane Road West, Nottingham NG2 3AA (GB).  <b>(72) Inventor; and</b> <b>(75) Inventor/Applicant (for US only):</b> SHEARD, Christine [GB:GB]; The Boots Company plc, 1 Thane Road West, Nottingham NG2 3AA (GB).  <b>(74) Agents:</b> THACKER, Michael, Anthony et al.; The Boots Company plc, Group Patents Dept., 1 Thane Road West, Nottingham NG2 3AA (GB).		<b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
<b>(54) Title:</b> COSMETIC COMPOSITIONS  <b>(57) Abstract</b>  <p>There is described a cosmetic composition comprising: from about 0.05 % to about 5 % w/w of a hydrophilic cationic resin; from about 30 % to about 85 % w/w of an oil component; from about 1 % to about 40 % w/w of a wax component; and from about 1 % to about 40 % w/w of a powder component. The hydrophilic cationic resin may be water soluble or water swellable and may also be any mixture of suitable homopolymers or copolymers for example any mixture of one or more polyquaternium polymers or polymeric salts preferably those denoted by the CFTA name polyquaternium. Preferably the cosmetic composition is solid at ambient temperature and is suitable for use as a lipstick. A product comprising the composition associated with a suitable receptacle and/or dispenser is also disclosed. The cosmetic composition may be applied topically in a method of cosmetic treatment. The compositions may be prepared by mixing the above ingredients intimately and optionally moulding the resultant mixture into a solid form suitable for use in the method of cosmetic treatment.</p>		

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AM	Armenia	GB	United Kingdom	MW	Malawi
AT	Austria	GE	Georgia	MX	Mexico
AU	Australia	GN	Guinea	NE	Niger
BB	Barbados	GR	Greece	NL	Netherlands
BE	Belgium	HU	Hungary	NO	Norway
BF	Burkina Faso	IE	Ireland	NZ	New Zealand
BG	Bulgaria	IT	Italy	PL	Poland
BJ	Benin	JP	Japan	PT	Portugal
BR	Brazil	KE	Kenya	RO	Romania
BY	Belarus	KG	Kyrgyzstan	RU	Russian Federation
CA	Canada	KP	Democratic People's Republic of Korea	SD	Sudan
CF	Central African Republic	KR	Republic of Korea	SE	Sweden
CG	Congo	KZ	Kazakhstan	SG	Singapore
CH	Switzerland	LI	Liechtenstein	SI	Slovenia
CI	Côte d'Ivoire	LK	Sri Lanka	SK	Slovakia
CM	Cameroon	LR	Liberia	SN	Senegal
CN	China	LT	Lithuania	SZ	Swaziland
CS	Czechoslovakia	LU	Luxembourg	TD	Chad
CZ	Czech Republic	LV	Latvia	TG	Togo
DE	Germany	MC	Monaco	TJ	Tajikistan
DK	Denmark	MD	Republic of Moldova	TT	Trinidad and Tobago
EE	Estonia	MG	Madagascar	UA	Ukraine
ES	Spain	ML	Mali	UG	Uganda
FI	Finland	MN	Mongolia	US	United States of America
FR	France	MR	Mauritania	UZ	Uzbekistan
GA	Gabon			VN	Viet Nam

- 1 -

COSMETIC COMPOSITIONS

This invention relates to novel cosmetic compositions for topical application, in particular to novel cosmetic compositions for application to the lips or skin.

A cosmetic composition (for example a concealer, blusher, eye shadow, mascara, foundation, lipstick or other make-up) should possess certain physical properties to be acceptable to a consumer. It should, for example have a suitable texture to permit smooth and rapid application with the minimum of pressure. The applied cosmetic film should be resistant to wear encountered during use (for example a lipstick should resist mild abrasion during eating, drinking, or smoking). For a lipstick composition it is important that the ingredients used have acceptable organoleptic properties (i.e. are not bitter or astringent tasting). If the cosmetic composition is pigmented (i.e. used to tint or colour the body) it is particularly important that the composition should be sufficiently substantive such that colour is retained only on that portion of the body to which it is applied, and does not spread colour onto the adjacent skin (for example a lipstick should not spread away from the lips).

Use of ingredients having improved substantive properties to formulate cosmetic compositions is desirable for several reasons. The interval between re-application of cosmetic colour may be increased and the rub off of coloured cosmetic to other surfaces (for example clothing which may require cleaning) may be reduced. The resilience of the cosmetic film formed on the skin or lips may be improved. A more resilient film may also reduce water loss from the skin which may produce an enhanced moisturising and/or conditioning effect.

Thus it can be seen that cosmetic compositions comprising ingredients with improved substantive properties may provide some or all of the aforementioned advantages.

- 2 -

Lipstick compositions are known which comprise oil compatible, cationic, quaternary compounds (for example those available under the trade name Incroquat Behenyl TMS [from Croda Surfactants Ltd]). Such cationic ingredients do not form a satisfactory film when applied to the lips. Other  
5 lipstick compositions are known which use as the film-forming ingredient non-ionic, oil soluble ingredients such as the PVP copolymer available commercially under the trade name Antaron V220 [from GAF (Great Britain) Co. Ltd]. These known lipstick compositions do not teach the novel cosmetic compositions of the present invention or suggest the advantages of using  
10 hydrophillic cationic resins as a substantive ingredient in such cosmetic compositions.

It had previously been thought that hydrophillic cationic resins could not be used as a substantive ingredient in hydrophobic cosmetic compositions (such as lipsticks) as it was believed that they could not be incorporated into an oily  
15 base to form a stable composition. Surprisingly it has now been found that hydrophillic cationic resins are suitable for use in such cosmetic compositions as a substantive ingredient. Such cationic resins have been found to be particularly effective at adhering to the lips or skin, and are therefore particularly effective as the substantive film-forming ingredient in lipsticks, to improve the  
20 lipsticks' conditioning ability, moisturising ability and durability. These cationic resins may also act on the other ingredients in a hydrophobic cosmetic formulation to synergistically enhance topical delivery of the composition and/or the active ingredients therein (e.g. pigment).

Therefore, broadly in accordance with the present invention there is provided a  
25 cosmetic composition comprising:

from about 0.05% to about 5% w/w of a hydrophillic cationic resin; from about 30% to about 85% w/w of an oil component;

from about 1% to about 40% w/w of a wax component; and

from about 1% to about 40% w/w of a powder component.

- 3 -

Preferably the cosmetic composition comprises a lipstick composition.

The term 'w/w' as used herein indicates the percentage mass of ingredient per total mass of the composition.

5 Preferably the hydrophillic cationic resin may be water soluble and/or water swellable.

More preferably the hydrophillic cationic resin comprises one or more polyquaternium polymer or polymers. Polyquaternium polymers are denoted by the Cosmetic Toiletries and Fragrance Association (CTFA) name polyquaternium followed by a number. Generally polyquaternium polymers  
10 comprise quaternary ammonium polymers, polymeric quaternary ammonium salts or are formed from such polymers or polymeric salts. It will be understood therefore that the hydrophillic cationic resin may be any suitable polymeric quaternary ammonium polymer, polymeric quaternary ammonium salt or any mixtures thereof. The hydrophillic cationic resin may be a homopolymer formed  
15 from the same monomer type or may be a co-polymer formed from two or more different monomer types.

Examples of polymers or polymeric salts suitable for use as the hydrophillic cationic resin in the present invention comprise one or more of the following and/or any suitable mixtures thereof: polyquaternium-1 (a polymeric quaternary  
20 ammonium salt); polyquaternium-2 (a polymeric quaternary ammonium salt); polyquaternium-4 (a copolymer of hydroxyethylcellulose and diallyldimethyl ammonium chloride); polyquaternium-5 (the co-polymer of acrylamide and  $\beta$ -methacryloyloxyethyl trimethyl ammonium methosulphate); polyquaternium-6 (a polymer of dimethyl diallyl ammonium chloride); polyquaternium-7 (the  
25 polymeric quaternary ammonium salt consisting of acrylamide and dimethyl diallyl ammonium chloride monomers); polyquaternium-8 (the polymeric quaternary ammonium salt of methyl and stearyl dimethylaminoethyl

- 4 -

methacrylate quaternised with dimethyl sulphate); polyquaternium-9 (the polymeric quaternary ammonium salt of polydimethylaminoethyl methacrylate quaternised with methyl bromide); polyquaternium-10 (a polymeric quaternary ammonium salt of hydroxyethylcellulose reacted with a trimethyl ammonium substituted epoxide); polyquaternium-11 (a quaternary ammonium polymer formed by the reaction of diethyl sulphate and a copolymer of vinylpyrrolidine and dimethyl aminoethylmethacrylate); polyquaternium-12 (a polymeric quaternary ammonium salt prepared by the reaction of ethyl methacrylate / abletyl methacrylate / diethylaminoethyl methacrylate copolymer with dimethyl sulphate); polyquaternium-13 (a polymeric quaternary ammonium salt prepared by the reaction of ethyl methacrylate / oleyl methacrylate / diethylaminoethyl methacrylate copolymer with dimethyl sulphate); polyquaternium-14 (a polymeric quaternary ammonium salt); polyquaternium-15 (the copolymer of acryloxide and  $\beta$ -methacryloxyethyl trimethyl ammonium chloride); polyquaternium-16 (a polymeric quaternary salt formed from methylvinylimidazolium chloride and vinylpyrrolidine); polyquaternium-17 (a polymeric quaternary salt prepared by the reaction of adipic acid and dimethylaminopropylamine reacted with dichloroethyl ether); polyquaternium-18 (a polymeric quaternary salt prepared by the reaction of azelaic acid and dimethylaminopropylamine reacted with dichloroethyl ether); polyquaternium-19 (a polymeric quaternary ammonium salt prepared by the reaction of polyvinyl alcohol with 2,3-epoxypropylamine); polyquaternium-20 (a polymeric quaternary ammonium salt prepared by the reaction of polyvinyl octadecyl ether with 2,3-epoxypropylamine); polyquaternium-22 (a copolymer of dimethyldiallyl ammonium chloride and acrylic acid); polyquaternium-24 (a polymeric quaternary ammonium salt of hydroxyethylcellulose reacted with a lauryl dimethyl ammonium substituted epoxide); polyquaternium-27 (the block copolymer formed by reacting polyquaternium-2 [q.v.] with polyquaternium-17 [q.v.]); polyquaternium-28 (a polymeric quaternary ammonium salt consisting of vinylpyrrolidone and dimethylaminopropyl methacrylamide monomers); polyquaternium-29 (Chitosan that has been reacted with propylene oxide and

- 5 -

quaternised with epichlorohydrin); polyquaternium-30 (a polymeric quaternary ammonium salt); polyquaternium-31 (a polymeric quaternary salt prepared by the reaction of DMAPA acrylates / acrylic acid / acrylonitrogens copolymer and diethyl sulphate); polyquaternium-32 (a polymeric quaternary ammonium salt);  
5 polyquaternium-33 (a polymeric quaternary ammonium salt); polyquaternium-34 (a polymeric quaternary ammonium salt); polyquaternium-35 (a polymeric quaternary ammonium salt); polyquaternium-36 (a polymeric quaternary ammonium salt); polyquaternium-37 (a polymeric quaternary ammonium salt); and polyquaternium-39 (a polymeric quaternary ammonium salt of acrylic acid,  
10 diallyl dimethyl ammonium chloride and acrylamide).

Most preferably the hydrophillic cationic resin is polyquaternium-37, such as that available commercially from Allied Colloid under the trade names Salcare SC95 or Salcare SC96.

The hydrophillic cationic resin may comprise a suitable base material for  
15 example selected from an emollient ester and/or an emollient oil.

The oil component may comprise one or more cosmetically acceptable oils, silicones, fats and any mixtures thereof.

Suitable cosmetically acceptable oils comprise natural oils (for example plant oils [such as almond oil, vegetable oil and castor oil]), synthetic oils (for  
20 example octyl dodecanol and/or fatty esters [such as pentaerythrityl tetracaprylate and pentaerythrityl tetraisostearate]), fatty oils (for example triglyceride esters), fatty alcohols (for example oleyl alcohol and octyldodecanol) and mineral oils (for example liquid paraffin and C<sub>11-12</sub> isoparaffin). Suitable cosmetically acceptable silicones may comprise volatile  
25 silicones (for example volatile linear polydimethylsiloxanes) and cyclomethicone and non-volatile silicone oils (for example phenyldimethicone).

- 6 -

Suitable cosmetically acceptable fats may comprise natural fats (for example animal fats [such as wool fat], vegetable fats [such as triglyceride esters] and mineral fats [such as white soft paraffin]) and synthetic fats (for example bisdiglyceryl caprylate / caprate / isostearate / stearate / hydroxystearate  
5 adipate).

Preferably the oil component is present in an amount from about 50% to about 80% w/w.

Optionally the oil component may further comprise soothing agents (for example alpha bisabolol and/or a plant extract [such as chamomile extract  
10 and/or liquorice extract]) and/or moisturising agents (for example an alkylene glycol [such as butylene glycol]).

The wax component has a melting point in the range from about 30 °C to about 120 °C. Suitably the wax component comprises one or more cosmetically acceptable waxes, wax-like materials and any mixtures thereof. Suitable waxes  
15 comprise natural waxes (for example plant waxes [such as candelilla wax, carnauba wax and illupe butter], animal waxes [such as beeswax, lanolin wax and lanolin derivative waxes] and mineral waxes [such as ozokerite wax, montan wax and paraffin waxes {e.g. microcrystalline wax and paraffin}]), synthetic waxes (for example hydrogenated castor oil, hydrocarbon wax and  
20 cetyl alcohol) and silicone waxes (for example C<sub>24-28</sub> alkyl methicone).

Preferably the wax component is present in the cosmetic composition in an amount from about 5% to about 40% w/w, more preferably from about 10% to about 30% w/w.

The powder component of the invention is generally a dry, particulate matter  
25 having a mean primary particle size from about 0.02 microns to about 80 microns. The particle size is measured along the longest axis of the particle.

- 7 -

The particulate matter may be pigmentary powder and/or non-pigmentary powder.

Preferably, the powder component is present in an amount from about 2% to about 30% w/w. This is particularly advantageous if the cosmetic composition  
5 is a lipstick.

Suitable non-pigmentary powders comprise acrylate polymers, alumina, aluminium silicate, bentonite, boron nitride, calcium carbonate, calcium silicate, cellulose, corn starch, kaolin, magnesium aluminium silicate, magnesium carbonate, mica, micronised Teflon® (PTFE), nut shell powder (such as walnut  
10 shell powder), nylon, polyethylene, polymethyl methacrylate beads, silica, silk powder, tin oxide, zinc myristate and any mixtures thereof.

Suitable pigmentary powders comprise various inorganic and organic pigments. Suitable inorganic pigments, especially for use in lipsticks, comprise iron oxides, ultramarines and titanium dioxide. The powder component may further  
15 comprise inorganic pigments that give a pearly finish, for example bismuth oxychloride and titanium dioxide coated mica. Suitable organic pigments, especially for use in lipsticks, comprise various suitable aromatic components including monoazo, indigoid, fluoran and pyrazole dyes. The pigmentary powders are selected to be cosmetically acceptable and to comply with the laws  
20 and regulations of the territories in which they are to be used. For example in the European Union at the priority date of the present application, suitable pigments are those listed in Annex IV of the Cosmetics Directive 76/768 EEC.

The percentage of pigmentary powder used in the powder component will depend upon the type of cosmetic being formulated. Blushers, eyeshadows,  
25 mascara, lipsticks and similar cosmetics will contain higher percentages of pigment in the powder component, usually above about 5% w/w of the total cosmetic composition.

- 8 -

The above-mentioned powders (either pigmentary or non-pigmentary) may be surface-treated with aluminium stearate, amino acids, mineral oils, phospholipids (for example lecithin) silicone oil or various other agents, either alone or in combination, which coat the powder surface, render the particles  
5 hydrophobic in nature, prevent agglomeration and/or aid dispersion of the powder.

The cosmetic composition of the present invention may also comprise, in addition to the pigment an additional dye to achieve the desired shade and/or colour in the resultant product (e.g. suitable and acceptable dyestuffs such as  
10 those known by the names Red 21, Red 27 and/or Orange 27).

Optionally the cosmetic composition further comprises one or more preservatives, antioxidants, and/or perfumes. Any conventional preservative, anti-oxidant and perfume may be employed. Optionally such a scavenger of free radicals may be added which may also be an anti-oxidant and/or  
15 preservative and/or have additional desirable properties (for example a vitamin, such as vitamin E). Preferred preservatives and/or antioxidants are selected from one or more of parabens, butylated hydroxy toluene, butylated hydroxyanisole and propyl-p-hydroxybenzoate.

The cosmetic composition of the present invention is preferably a lipstick and  
20 may further comprise one or more cosmetically acceptable additional ingredients suitable for lipsticks selected from: gloss modifiers, texture modifiers, pearlising agents (e.g. titanium dioxide coated mica [also known as timica]), matting agents (e.g. nylon powder), moisturising agents, soothing agents, conditioners, vitamins, sunscreens and/or suitable mixtures thereof.

25 The term "lipsticks" as used herein includes medicated and unmedicated lip salves, lip balms, lip glosses as well as lipsticks to colour the lips.

- 9 -

The term "sunscreen" is used herein to encompass tanning lotions, sunscreens and sunblockers which are intended for use on the body to provide protection against the sun's rays or other UV sources. Sunscreen agents which may be incorporated into the powders and / or compositions of the present invention

5 comprise organic chemical agents which act to absorb incident UV radiation and / or may be inorganic sunscreen agents which act to reflect incident UV radiation. Examples of suitable suncreening agents comprise one or more of the following or any suitable mixtures thereof: p-aminobenzoic acids, esters and derivatives (e.g. 2-ethylhexyl p-dimethylaminobenzoate or the octyl ester of

10 p-aminobenzoic acid); methoxycinnamate esters (e.g. 2-ethylhexyl-p-methoxycinnamate, or 2-ethoxyethyl-p-methoxycinnamate); benzophenones (for example oxybenzone); dibenzoylmethanes (e.g. butylmethoxy dibenzoyl methane); salicylate esters;  $\text{TiO}_2$  (preferably of a particle size of from 1 to 100 nm); and ZnO (preferably of a particle size of from 1 to 50 nm). Preferably

15 any sunscreening agent is present in an amount from about 0.1% to about 25%, more preferably 0.5% to 10% by weight of the composition.

Preferably the cosmetic composition of the present invention is solid at ambient temperature.

Broadly in accordance with a further aspect of the present invention, there is

20 provided a cosmetic composition as described herein in association with a suitable receptacle or dispenser thereof.

Broadly, in a still further aspect of the present invention broadly there is provided a method for cosmetic treatment comprising topical administration of a cosmetic composition as described herein.

25 In a yet further aspect of the present invention there is provided a process for preparing a cosmetic composition as described herein, the process comprising mixing intimately together the following ingredients: from about 0.05% to about 5% w/w of a hydrophilic cationic resin;

- 10 -

from about 30% to about 85% w/w of an oil component;  
from about 1% to about 40% w/w of a wax component; and  
from about 1% to about 40% w/w of a powder component.

Preferably the process of the present invention comprises a further step of  
5 moulding the mixture into a solid form suitable for topical application.

- 11 -

The present invention will now be illustrated by the following non-limiting examples. With the exception of the cationic resin, the other ingredients used in these examples are conventional lipstick ingredients which may be substituted by other similar ingredients (for example those described herein) as is well known to those skilled in the art. Thus these conventional ingredients need not be specified further. Due to rounding the weight percentages given in the examples may not total exactly 100 %.

Example 1

A lipstick was prepared to the following composition:

10	<i>Ingredient</i>	<i>% w/w</i>
	Plant wax	6.4
	Paraffin wax	9.0
	Synthetic wax	2.3
	Synthetic fat	10.0
15	Fatty alcohol	20.7
	Synthetic ester	12.74
	Plant oil	26.24
	Preservative	0.1
	Antioxidant	0.03
20	Cationic water soluble resin	
	(available from Allied Colloids under	
	the tradename 'Salcare SC96')	2.25
	Butylene glycol	1.5
	Pigment	8.74

25 The lipstick was prepared as follows. The pigment was premilled into the plant oil ingredient. The waxes and synthetic fat were melted together. The alcohol and ester were added to the melted wax and the mixture was stirred until uniform. The preservative and antioxidant were added to the mixture and

- 12 -

dissolved. The plant oil (comprising the pigment) was added to the wax mixture with high sheer mixing followed by the cationic resin, which was added with continued high sheer mixing. The resultant composition was poured into a mould to form a lipstick.

- 5 The above lipstick was compared to a bare skin control in the following test.

To the volar aspect of the forearm of eleven volunteers, two sites were delineated, one to which the lipstick was applied and the other which was left untreated as a control. Six corneometer measurements were taken from both sites for each time interval. The lipstick was applied at a rate of about  
 10  $2 \text{ mg cm}^{-2}$ . After time intervals of two hours, the lipstick was removed by gently wiping the site of application with a cotton bud. The control site was wiped in the same way. Ten minutes later corneometer measurements were taken from each site. The results are tabulated below.

Composition	% change in hydration of the skin after:			
	2 hours	4 hours	6 hours	8 hours
Example 1	8.69%	7.02%	5.57%	5.80%
Untreated Skin	1.70%	0.18%	2.62%	1.21%

- Thus the net percentage increase in skin hydration for the site treated with  
 15 lipstick compared to untreated skin is given below:

Net percentage increase after:				
	2 hours	4 hours	6 hours	8 hours
Example 1	7.49%	6.76%	3.48%	4.39%

The results were analysed using the one way analysis of variance followed by Krushal-Willis and the Millers Comparison test. The results point to an increase in skin moisture of the lipstick treated skin, compared to untreated skin, of up to 7% after 1 hour and up to 4% after 8 hours. This is due to the substantive

- 13 -

qualities of the lipstick which forms a substantive, resilient film on the skin, which reduces the amount of water evaporated from the skin. Thus these results show the lipstick of Example 1 acts to moisturise and condition the skin.

### Example 2

- 5 A pearl shade lipstick was prepared to the following composition:

	<i>Ingredient</i>	<i>% w/w</i>
	Plant wax	4.2
	Mineral wax	5.7
	Synthetic wax	8.7
10	Plant oil	20.2
	Synthetic oil	36.9
	Organic sunscreens	2.25
	Soothing agents	1.01
	Antioxidant	0.03
15	Tocopheryl acetate	0.5
	Pigment	7.75
	Dye	0.25
	Timica	12.0
	Cationic water soluble resin	
20	(available from Allied Colloids under	
	the tradename 'Salcare SC96')	0.5

The lipstick was prepared as follows. The pigment and dye were premilled into the plant oil ingredient. The waxes and other solid fatty materials were heated together and mixed until uniform. If the synthetic oil comprises a fatty ester, the ester is added to the melted wax and the mixture was stirred until uniform. The antioxidant was added to the mixture and dissolved. The cationic resin and soothing agent were added to the wax mixture with high sheer mixing. the

- 14 -

pigment, dye and timica were dispersed in the remaining synthetic oil and added to the bulk mixture using high shear mixing to achieve the desired shade and effect. The sunscreens were added followed by the tocopheryl acetate. The resultant composition was poured into a mould to form a lipstick which had similar advantageous properties to the lipstick described in Example 1.

### Example 3

A plain shade lipstick was prepared to the following composition:

	<i>Ingredient</i>	<i>% w/w</i>
	Plant wax	4.4
10	Mineral wax	6.2
	Synthetic wax	9.5
	Plant oil	22.0
	Synthetic oil	44.2
	Organic sunscreens	2.4
15	Soothing agents	1.01
	Antioxidant	0.03
	Tocopheryl acetate	0.5
	Pigment	9.0
	Dye	0.25
20	Cationic water soluble resin	
	(available from Allied Colloids under	
	the tradename 'Salcare SC96')	0.5

This lipstick was prepared in an analogous manner to the lipstick described in Example 2 and had similar advantageous properties to the lipstick described in Example 1.

- 15 -

Example 4

A matt shade lipstick was prepared to the following composition:

	<i>Ingredient</i>	<i>% w/w</i>
	Plant wax	4.0
5	Mineral wax	5.4
	Synthetic wax	8.2
	Plant oil	19.0
	Synthetic oil	38.6
	Organic sunscreens	2.1
10	Soothing agents	1.01
	Antioxidant	0.03
	Tocopheryl acetate	0.5
	Pigment	5.75
	Dye	0.16
15	Timica	2.8
	Nylon powder (matting agent)	12
	Cationic water soluble resin (available from Allied Colloids under the tradename "Salcare SC96")	0.5

- 20 This lipstick was prepared in an analogous manner to the lipstick described in Example 2 and had similar advantageous properties to the lipstick described in Example 1.

- 16 -

CLAIMS

1. A cosmetic composition comprising  
from about 0.05 % to about 5 % w/w of a hydrophillic cationic resin;  
from about 30 % to about 85 % w/w of an oil component;  
5 from about 1 % to about 40 % w/w of a wax component; and  
from about 1 % to about 40 % w/w of a powder component.
2. A cosmetic composition as claimed in claim 1, in which the hydrophillic  
cationic resin is water soluble and/or water swellable.
3. A cosmetic composition as claimed in any preceding claim, in which  
10 the hydrophillic cationic resin comprises one or more polyquaternium polymers  
and/or polymeric salts.
4. A cosmetic composition as claimed in any preceding claim, in which  
the hydrophillic cationic resin comprises any suitable polymeric quaternary  
ammonium polymer, polymeric quaternary ammonium salt or any mixtures  
15 thereof.
5. A cosmetic composition as claimed in any preceding claim, in which  
the hydrophillic cationic resin comprises a homopolymer, a copolymer or any  
suitable mixtures thereof.
6. A cosmetic composition as claimed in any preceding claim, in which  
20 the hydrophillic cationic resin comprises one or more the following or any  
mixtures thereof:  
polyquaternium-1; polyquaternium-2; polyquaternium-4; polyquaternium-5;  
polyquaternium-6; polyquaternium-7; polyquaternium-8; polyquaternium-9;  
polyquaternium-10; polyquaternium-11; polyquaternium-12; polyquaternium-13;  
25 polyquaternium-14; polyquaternium-15; polyquaternium-16; polyquaternium-17;

- 17 -

polyquaternium-18; polyquaternium-19; polyquaternium-20; polyquaternium-22;  
polyquaternium-24; polyquaternium-27; polyquaternium-28; polyquaternium-29;  
polyquaternium-30; polyquaternium-31; polyquaternium-32; polyquaternium-33;  
polyquaternium-34; polyquaternium-35; polyquaternium-36; polyquaternium-37;  
5 and polyquaternium-39.

7. A cosmetic composition as claimed in any preceding claim in which  
the hydrophilic cationic resin comprises polyquaternium-37.

8. A cosmetic composition as claimed in any preceding claim in which the  
hydrophilic cationic resin comprises a base material selected from an emollient  
10 ester and/or an emollient oil.

9. A cosmetic composition as claimed in any preceding claim, which is  
solid at ambient temperature and is suitable for use as a lipstick.

10. A cosmetic composition as claimed in any preceding claim, in which  
the oil component comprises from about 50 % to about 80 % w/w.

15 11. A cosmetic composition as claimed in any preceding claim, in which  
the wax component comprises from about 5 % to about 40 % w/w.

12. A cosmetic composition as claimed in any preceding claim, in which  
the wax component comprises from about 10 % to about 30 % w/w.

13. A cosmetic composition as claimed in any preceding claim, in which  
20 the powder component comprises a non-pigmentary powder in conjunction with  
a pigmentary powder.

14. A cosmetic composition as claimed in any preceding claim, in which  
the powder component comprises from about 2 % to about 30 % w/w.

- 18 -

15. A cosmetic composition as claimed in any preceding claim, in which the powder component is surface treated with one or more ingredients selected from aluminium stearate, amino acids, mineral oils, phospholipids, silicone oils and any mixtures thereof.

5 16. A cosmetic composition as claimed in any preceding claim, which further comprises one or more ingredient or ingredients selected from: gloss modifiers, texture modifiers, moisturising agents, soothing agents, conditioners, vitamins, sunscreens, preservatives, antioxidants, perfumes and any mixtures thereof.

10 17. A cosmetic composition substantially as described herein with reference to the example.

18. A cosmetic product comprising a cosmetic composition as claimed in any preceding claim, in association with a suitable receptacle or dispenser thereof.

15 19. A method of cosmetic treatment comprising topical administration of a cosmetic composition as claimed in any of claims 1 to 17 or use of a cosmetic product as claimed in claim 18.

20. A process for preparing a cosmetic composition as claimed in any of claims 1 to 17, comprising mixing intimately together the following ingredients:  
20 from about 0.05 % to about 5 % w/w of water soluble cationic resin;  
from about 30 % to about 85 % w/w of an oil component;  
from about 1 % to about 40 % w/w of a wax component; and  
from about 1 % to about 40 % w/w of a powder component.

21. A process as claimed in claim 14, comprising the further step of  
25 moulding the resultant mixture into a solid form suitable for topical application.

# INTERNATIONAL SEARCH REPORT

International Application No.  
PCT/EP 96/04393

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 6 A61K7/48

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 6 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	US 5 534 247 A (FRANJAC DAVID ET AL) 9 July 1996 see the whole document ---	1
P,A	WO 96 17592 A (PROCTER & GAMBLE) 13 June 1996 see the whole document ---	1-21
A	EP 0 502 769 A (OREAL) 9 September 1992 see the whole document ---	1-21
A	WO 94 15580 A (PROCTER & GAMBLE) 21 July 1994 see the whole document ---	1-21
-/--		

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \* "A" document defining the general state of the art which is not considered to be of particular relevance
- \* "E" earlier document but published on or after the international filing date
- \* "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \* "O" document referring to an oral disclosure, use, exhibition or other means
- \* "P" document published prior to the international filing date but later than the priority date claimed

\* "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\* "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\* "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\* "&" document member of the same patent family

Date of the actual completion of the international search

27 February 1997

Date of mailing of the international search report

14.03.97

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl.  
Fax (+ 31-70) 340-3016

Authorized officer

Couckuyt, P

# INTEL TIONAL SEARCH REPORT

nal Application No

PCT/EP 96/04393

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 94 28860 A (PROCTER &amp; GAMBLE ;LANGLOIS ANNE (GB); JAKUBOVIC DAVID ANDREW (GB);)  22 December 1994  see the whole document  -----</p>	1-21

Form PCT ISA 210 (continuation of second sheet) (July 1992)

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 96/04393

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5534247 A	09-07-96	NONE	
WO 9617592 A	13-06-96	NONE	
EP 0502769 A	09-09-92	FR 2673372 A	04-09-92
		AT 136771 T	15-05-96
		CA 2061952 A	29-08-92
		DE 69209877 D	23-05-96
		DE 69209877 T	07-11-96
		ES 2085582 T	01-06-96
		JP 5201826 A	10-08-93
		US 5223559 A	29-06-93
WO 9415580 A	21-07-94	AU 5993894 A	15-08-94
		CA 2153324 A	21-07-94
		CN 1118987 A	20-03-96
		EP 0678015 A	25-10-95
		JP 8505624 T	18-06-96
WO 9428860 A	22-12-94	AU 6913794 A	03-01-95
		CA 2163333 A	22-12-94
		CN 1125392 A	26-06-96
		EP 0706365 A	17-04-96
		JP 8511519 T	03-12-96